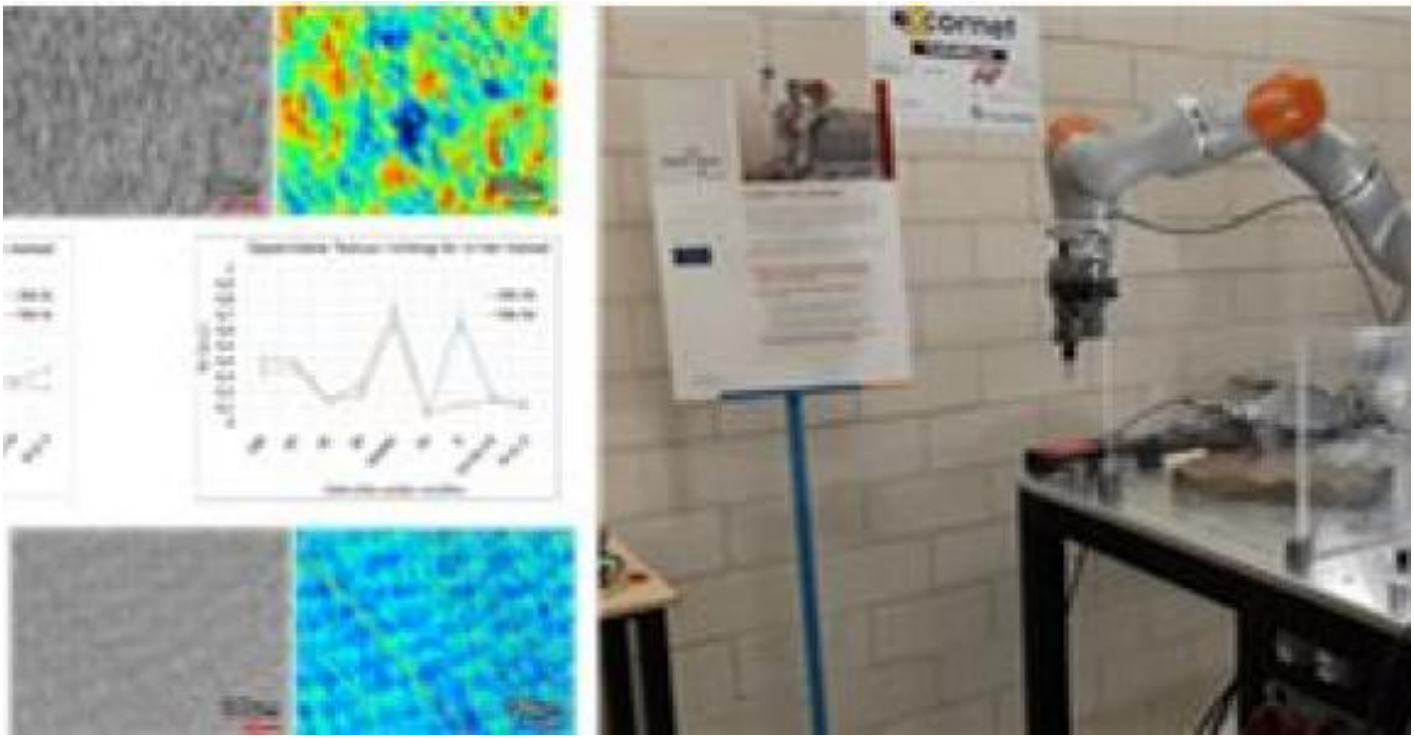

Sanding and deburring with cobots, practical tests

02 December 2020, 01:00

Jan Kempeneers
Peter Paulissen

Customers want products with an impeccable finish. Many steel or plastic products have irregularities caused during the production process which have to be eliminated by sanding, deburring or both. These operations are carried out manually, which has a lot of disadvantages. Automation is a possible solution, which Sirris (with the support of VLAIO) will now investigate in the COBOFIN project.

A large number of products made of steel and plastic regularly develop all kinds of imperfections during production, such as scratches, sharp edges and bumps. To eliminate these, the products often have to be sanded and/or deburred. Today, these manual operations are perceived to be dirty, boring and stressful. In addition, they have a strong impact on both the total production time and cost. Automation of these steps is necessary to achieve qualitative, improved and competitive processes. Different automation solutions are commercially available, but these are mainly suitable for larger series of identical products. Automated sanding and deburring of products in smaller quantities is quite a different matter.

Collaborative robots for sanding and deburring

With the latest generation of **collaborative robots (cobots)** you can opt for a different approach. A cobot can be used as a support tool for operators. The experienced operator focuses on the areas that are more complex and require specific experience, while the cobot, as a support assistant, focuses on the repetitive, burdensome tasks, which are easier to automate.

Results from research on 'robotised' polishing demonstrate that the integration of force feedback via sensors indeed allows cobots to operate on feeling, which is a requirement for quality sanding and deburring. Teach-by-demonstration principles, in turn, allow the main parameters and settings of the cobot to be programmed with limited effort.

Automatic sanding and deburring examined

Early 2021 Sirris will launch the COBOFIN project - with the support of VLAIO - aimed at accelerating the introduction of collaborative robots - as assistants alongside experienced operators - for the automated sanding and deburring of small series. This will allow companies to make these processes better, more competitive and enjoyable.

The project addresses the entire value chain and addresses both **manufacturing companies** that sand and debur metal and plastic workpieces to achieve the desired end quality, **integrators** that support SME manufacturing companies in the implementation of automation solutions and **technology and tool suppliers**.

The COBOFIN project has three concrete objectives:

1. Make the potential of cobots for automated sanding and deburring of small series tangible and transfer it to businesses.
2. Investigate the possibilities of low-threshold programming of cobots and transfer the know-how to the companies.
3. Support and accelerate the implementation of robotised sanding and deburring in an SME production environment.

Companies interested in following up the project closely and wanting to work with the knowledge and results that are gathered are welcome!
Interested? Contact us::

- Jan Kempeneers
- Peter Paulissen

COBOFIN is a COOCK project, supported by VLAIO.

Authors

Jan Kempeneers

Peter Paulissen